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Europäisches Patentamt
Zweigstelle in Den Haag
Recherchen-abteilung

European Patent Office
Branch at The Hague
Search Division

Office européen des brevets
Département à La Haye
Division de la recherche

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16. Nov. 2001
HOFFMANN • EITLE, MÜNCHEN
PATENTANWÄLTE RECHTSANWÄLTE

Datum/Date
13. 11. 2001

Zeichen/Ref./Réf.	Anmeldung Nr./Application No./Demande n°.//Patent Nr./Patent No./Brevet n°
88 474 a/scho	01115672.6-1220/

Anmelder/Applicant/Demandeur//Patentinhaber/Proprietor/Titulaire
MITSUI CHEMICALS, INC.

COMMUNICATION EP 01115672.6

The European Patent Office herewith transmits the partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 869,--) or the equivalent applicable on the date of payment is payable.
This applies also to the search fees requested under Rule 46(1) EPC.
See also OJ EPO 06/1999, 405.

☐ The abstract was modified by the Search Division and the definitive text is attached to the present communication.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 02/1999.

REGISTERED LETTER

European Patent Office

PARTIAL EUROPEAN SEARCH REPORT

under Rule 46, paragraph 1 of the European Patent Convention

Application Number EP 01 11 5672

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 990 664 A (MITSUI CHEMICALS INC) 5 April 2000 (2000-04-05) * page 118, line 56 - page 119, line 36 * * example 11 * * claims 1-3,9 * ---	1-3,14	C08F210/02 C08F210/16 C08F4/622 C08F4/54
X	EP 0 889 061 A (UNION CARBIDE CHEM PLASTIC) 7 January 1999 (1999-01-07) * page 2 - page 3 * * page 6, line 54 - page 7, line 7 * * examples 1-5 * * claims 1-8 * --- -/--	1-3,14	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

C08F

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to severalinventions or groups of inventions, namely:

see sheet B

The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

Place of search	Date of completion of the search	Examiner
THE HAGUE	18 October 2001	Gamb, V

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C27)

European Patent Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 01 11 5672

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
D,X	MECKING ET AL: "Mechanistic Studies of the Palladium-Catalyzed Copolymerization of Ethylene and alpha-Olefins with Methyl Acrylate" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, US, vol. 120, 27 January 1998 (1998-01-27), pages 888-899, XP002151753 ISSN: 0002-7863 * page 892; table 2 * * page 894, column 1, last paragraph *	1,14	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)

EPO FORM 1503 03.82 (P04C10)

European Patent Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 01 11 5672

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-3, 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst represented by the formula LmMXn wherein M is a metal selected from groups 3 to 11 and L is a ligand defined by the fact that the energy difference delta E=E1-E2 between the coordination energy E1 of the ligand L with ethylene and the coordination energy E2 of the ligand L with methyl acrylate is less or equal than 50 kL/mol.

2. Claims: 4 (partially), 9 (partially), 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 4 with a ligand represented by formula (I).

3. Claims: 4 (partially), 9 (partially), 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 5 with a ligand represented by formula (I).

4. Claims: 4 (partially), 9 (partially), 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 6 with a ligand represented by formula (I).

5. Claims: 4 (partially), 9 (partially), 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 11 with a ligand represented by formula (I).

6. Claims: 5 (partially), 10 (partially), 14 (partially)

   Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 4 with a ligand represented by formula (II).

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

7. Claims: 5 (partially), 10 (partially), 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 5 with a ligand represented by formula (II).

8. Claims: 5 (partially), 10 (partially), 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 6 with a ligand represented by formula (II).

9. Claims: 5 (partially), 10 (partially), 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c) wherein M' is from group 11 with a ligand represented by formula (II).

10. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 3 with a ligand represented by formula (III).

11. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 4 with a ligand represented by formula (III).

12. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

compound represented by the formula (c') wherein M is from group 5 with a ligand represented by formula (III).

13. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 6 with a ligand represented by formula (III).

14. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 7 with a ligand represented by formula (III).

15. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 8 with a ligand represented by formula (III).

16. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 9 with a ligand represented by formula (III).

17. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

group 10 with a ligand represented by formula (III).

18. Claims: 6 (partially) - 8 (partially),
11 (partially) - 14 (partially)

Process for preparing a copolymer by copolymerising a non-polar olefin and a polar olefin in the presence of a catalyst comprising the reaction product of a metallic compound represented by the formula (c') wherein M is from group 11 with a ligand represented by formula (III).

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 11 5672

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-10-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0990664 A	05-04-2000	EP 0990664 A1	05-04-2000
		CN 1263538 T	16-08-2000
		WO 9954364 A1	28-10-1999
EP 0889061 A	07-01-1999	EP 0889061 A1	07-01-1999
		US 6136748 A	24-10-2000